

CERTIFICATE OF MAILING (37 C.F.R. §1.8)

I hereby certify that this paper, together with all enclosures identified herein, are being deposited with the United States Postal Service as first class mail, addressed to Mail Stop PCT, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450, on or before October 23, 2007.

10/13/07
Date

William L. King III
William L. King III

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of : McNicholl
Examiner : To be assigned
Serial No. : 10/538,675
Group Art Unit : To be assigned
Confirmation No. : To be assigned
Filed : June 9, 2005
Attorney Docket No. : IPG-051112
Title : A DEVICE FOR TEMPORARILY SHIELDING THE
END OF A SURGICAL INSTRUMENT SHARP

Mail Stop PCT
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

PETITION TO VACATE STATUS OF ABANDONMENT UNDER 37 C.F.R. §1.181

Dear Sir:

This communication is in response to the Notification of Abandonment mailed June 15, 2006, (Ex. A), which to the best of Applicant's knowledge may apply to the present application even though the majority of the data on the Notification of Abandonment is inconsistent with

Applicant's file. If Ex. A does not apply to the present application, Applicant respectfully requests that the present petition be disregarded.

By way of background, Applicant respectfully submits that the following documents were transmitted to the United States Patent and Trademark Office (USPTO) on June 9, 2005:

- 1) Transmittal Letter to the United States Designated/Elected Office;
- 2) Preliminary Amendment;
- 3) A copy of the International Application as published;
- 4) Declaration and Power of Attorney;
- 5) PTO Form 2038 for fees identified thereon; and
- 6) Certificate of Mailing by Express Mail and Receipt. (Ex. B; Original National Phase Filing Documentation)

Applicant further respectfully submits that the above-identified Original National Phase Filing Documentation was acknowledged as received by the USPTO on June 9, 2005. (Ex. C; Stamped, Return Receipt Postcard) On May 23, 2006, Mr. Winston Alvarado contacted the undersigned and requested an updated PTO Form 1390 to correct a typographical informality, which was transmitted to Mr. Alvarado the same day via facsimile. (Ex. D; PTO Form 1390 with facsimile confirmation)

On June 15, 2006, a Notification of Abandonment (Ex. A) was issued by the USPTO for failing to provide the full U.S. Basic National Fee by 30 Months 37 C.F.R. §1.495(b)(2). If Ex. A does, indeed, apply to the present application, Applicant respectfully submits that it did timely pay the full U.S. Basic National Fee by 30 Months 37 C.F.R. §1.495(b)(2) via PTO Form 2038 (Ex. B). To confirm that Applicants' credit card was indeed charged the requisite fee on June 17, 2005, Applicant hereby submits a redacted American Express statement pertaining to the same. (Ex. E) By way of additional verification, Mr. Goodwin in the Office of Finance at the USPTO

also verified that Applicants' credit card ending in 91056, which was authorized via PTO Form 2038 to pay the U.S. Basic National Fee was, indeed, charged \$1,030.00 on June 17, 2005, for the above-identified fee. As such, Applicant respectfully submits that the Notification of Abandonment for failure to pay the full U.S. Basic National Fee is improper.

In addition, as indicated on Page 2 of the original Transmittal Letter, authorization was given to charge any additional fees to Deposit Account No. 50-2131 (Ex. B). Applicant respectfully submits that Deposit Account No. 50-2131 maintained a balance of well over \$2,500.00 from June 2005, up to and including June 2006, – in the event any additional fees were required. (Ex. F)

Applicant respectfully submits that any delay in filing the present Petition to Vacate should be deemed timely inasmuch as Applicant is still uncertain whether the Notification of Abandonment applies to the present application. In particular, a majority of the data is inconsistent with that which was submitted in Ex. B. Applicant is simply petitioning at this time because Applicant has not received any further communication from the USPTO including an anticipate filing receipt and notice to file missing parts.

In light of the foregoing clarifications, Applicant respectfully requests that the present status of abandonment of the above-identified application be vacated and further respectfully requests reinstatement of the above-identified patent application in accordance with 37 C.F.R. §1.181 to, in turn, receive the Filing Receipt and Notice to File Missing Parts so that Applicant can submit the Declaration and Power of Attorney, and proceed with prosecution of the application.

Pursuant to 37 C.F.R. §1.182 and/or 37 C.F.R. §1.183, if any other charges or fees are required under 37 C.F.R. §1.17(f) or must be credited in connection with this communication,

they may be paid out of our Deposit Account No. 50-2131.

Should anything further be required, a telephone call to the undersigned, at (616) 355-0400, is respectfully solicited.

Respectfully submitted,
KING & PARTNERS, PLC

Dated: 10/23/07

William L. King III
William L. King III
Reg. No. 46,830

KING & PARTNERS, PLC
170 College Avenue, Suite 230
Holland, Michigan 49423
T: (616) 355-0400
F: (616) 355-9862



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
 United States Patent and Trademark Office
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 Alexandria, Virginia 22313-1450
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U.S. APPLICATION NUMBER NO.	FIRST NAMED APPLICANT	ATTY. DOCKET NO.
10/538,675	Frank J. RAUSCHER	IPG-051112

INTERNATIONAL APPLICATION NO.

PCT/US03/05347

I.A. FILING DATE	PRIORITY DATE
12/09/2003	02/21/2002

30981
 King & Partners, PLC
 170 College Avenue
 SUITE 230
 HOLLAND, MI 49423

CONFIRMATION NO. 3694

371
 ABANDONMENT/TERMINATION
 LETTER

OC000000019284318

Date Mailed: 06/15/2006

NOTIFICATION OF ABANDONMENT

The United States Patent and Trademark Office in its capacity as a Designated / Elected Office (37 CFR 1.495) has made the following determination:

- Applicant has failed to provide the full U.S. Basic National Fee by 30 months (37 CFR 1.495(b)(2)).

Therefore, the above identified application failed to meet the requirements of 35 U.S.C. 371 and 37 CFR 1.495, and is ABANDONED AS TO THE UNITED STATES OF AMERICA.

WINSTON M ALVARADO

Telephone: (703) 308-9140 EXT 206

PART 1 - ATTORNEY/APPLICANT COPY

FORM PCT/DO/EO/909 (371 Abandonment Notice)

EXHIBIT A

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

**TRANSMITTAL LETTER TO THE UNITED STATES
DESIGNATED/ELECTED OFFICE (DO/EO/US)
CONCERNING A SUBMISSION UNDER 35 U.S.C. 371**

ATTORNEY'S DOCKET NUMBER

IPG-051112

U.S. APPLICATION NO. (If known, see 37 CFR 1.5)

INTERNATIONAL APPLICATION NO.
PCT/US03/05347INTERNATIONAL FILING DATE
09/12/2003PRIORITY DATE CLAIMED
09/12/2002

TITLE OF INVENTION A Device for Temporarily Shielding the End of a Surgical Instrument Sharp

APPLICANT(S) FOR DO/EO/US McNicholl

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☒ This is a **FIRST** submission of items concerning a submission under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a submission under 35 U.S.C. 371.
3. ☒ This is an express request to begin national examination procedures (35 U.S.C. 371 (f)). The submission must include items (5), (6), (9) and (21) indicated below.
4. ☒ The US has been elected (Article 31).
5. ☒ A copy of the International Application as filed (35 U.S.C. 371 (c)(2))
 - a. ☐ is attached hereto (required only if not communicated by the International Bureau).
 - b. ☒ has been communicated by the International Bureau.
 - c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☐ An English language translation of the International Application as filed (35 U.S.C. 371 (c)(2)).
 - a. ☐ is attached hereto.
 - b. ☐ has been previously submitted under 35 U.S.C. 154(d)(4).
7. ☒ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3))
 - a. ☐ are attached hereto (required only if not communicated by the International Bureau).
 - b. ☐ have been communicated by the International Bureau.
 - c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
 - d. ☒ have not been made and will not be made.
8. ☐ An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
9. ☒ An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).
10. ☐ An English language translation of the annexes of the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).

Items 11 to 20 below concern document(s) or information included:

11. ☐ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
12. ☐ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
13. ☒ A preliminary amendment.
14. ☐ An Application Data Sheet under 37 CFR 1.76.
15. ☐ A substitute specification.
16. ☒ A power of attorney and/or change of address letter.
17. ☐ A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 37 CFR 1.821 - 1.825.
18. ☒ A second copy of the published International Application under 35 U.S.C. 154(d)(4).
19. ☐ A second copy of the English language translation of the International Application under 35 U.S.C. 154(d)(4).
20. ☒ Other items or information: Return Postcard, Power of Attorney, and Certificate of Express Mail.

This collection of information is required by 37 CFR 1.414 and 1.491-1.492. The information is required to obtain or retain a benefit by the public, which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 15 minutes to complete, including gathering information, preparing, and submitting the completed form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop PCT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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U.S. APPLICATION NO. (if known, see 37 CFR 1.5)		INTERNATIONAL APPLICATION NO. PCT/US03/05347		ATTORNEY'S DOCKET NUMBER IPG-051112	
The following fees have been submitted				CALCULATIONS	PTO USE ONLY
21.	<input checked="" type="checkbox"/>	Basic national fee	\$300.00	\$ 300.00	
22.	<input checked="" type="checkbox"/>	Examination fee If international preliminary examination report prepared by USPTO and all claims satisfy provisions of PCT Article 33(1)-(4) All other situations	\$100.00 \$200.00	\$200.00	
23.	<input checked="" type="checkbox"/>	Search fee Search fee (37 CFR 1.445(a)(2)) has been paid on the international application to the USPTO has an International Searching Authority International Search Report prepared and provided to the Office All other situations	\$100.00 \$400.00 \$500.00	\$400.00	
TOTAL OF 21, 22 and 23 =				\$900.00	
<input type="checkbox"/> Additional fee for specification and drawings filed in paper over 100 sheets (excluding sequence listing or computer program listing filed in an electronic medium). The fee is \$250 for each additional 50 sheets of paper or fraction thereof.					
Total Sheets	Extra sheets	Number of each additional 50 or fraction thereof (round up to a whole number)	RATE		
20	-100 =	0	/50 =	0	x \$250.00
				\$ 0.00	
Surcharge of \$130.00 for furnishing the oath or declaration later than 30 months from the earliest claimed priority date (37 CFR 1.492(h)).				\$130.00	
CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE		
Total claims	20 - 20 =	0	X \$50.00	\$ 0.00	
Independent claims	3 - 3 =	0	X \$200.00	\$ 0.00	
MULTIPLE DEPENDENT CLAIM(S) (if applicable)			+ \$360.00	\$ 0.00	
TOTAL OF ABOVE CALCULATIONS =				\$1,030.00	
<input checked="" type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced by 1/2.					
SUBTOTAL =				\$1,030.00	
Processing fee of \$130.00 for furnishing the English translation later than 30 months from the earliest claimed priority date (37 CFR 1.492(i)).				\$ 0.00	
TOTAL NATIONAL FEE =				\$1,030.00	
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property				\$ 0.00	
TOTAL FEES ENCLOSED =				\$1,030.00	
				Amount to be refunded:	\$
				Amount to be charged:	\$
a. <input type="checkbox"/> A check in the amount of \$ _____ to cover the above fees is enclosed. b. <input type="checkbox"/> Please charge my Deposit Account No. _____ in the amount of \$ _____ to cover the above fees. A duplicate copy of this sheet is enclosed. c. <input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. <u>50-2131</u> . A duplicate copy of this sheet is enclosed. d. <input checked="" type="checkbox"/> Fees are to be charged to a credit card. WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.					
NOTE: Where an appropriate time limit under 37 CFR 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the International Application to pending status.					
SEND ALL CORRESPONDENCE TO: King & Jovanovic, PLC 170 College Avenue, Suite 230 Holland, Michigan 49423			SIGNATURE: <u>William L. King III</u> NAME: <u>William L. King III</u> 46,830 REGISTRATION NUMBER		

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of : McNicholl
Examiner : To Be Assigned
Serial No. : To Be Assigned
Group Art Unit : To Be Assigned
Filed : June 9, 2005
Attorney Docket No. : IPG-051112
Title : A DEVICE FOR TEMPORARILY SHIELDING THE
END OF A SURGICAL INSTRUMENT SHARP

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

PRELIMINARY AMENDMENT

Dear Sir:

Please amend the application as indicated below, prior to the calculation of filing fees, and please consider the following remarks toward consideration of the application and passage to allowance thereof.

CLAIM AMENDMENTS

Claims 1-18 (canceled)

19. (new) A device for temporarily shielding the end of a surgical instrument sharp, comprising:

- a housing having a proximal end and a distal end;
- an opening formed in the distal end of the housing for receiving an end of a surgical instrument sharp therethrough;
- a body located in the housing and movable between a first position in which an end of the body obstructs the opening and a second position in which the body is retracted from the opening;
- resilient means for biasing the body into the first position; and
- actuation means to move the body against the action of the resilient means into the second position.

20. (new) The device according to claim 19, wherein the body comprises a piston with a tapered distal end.

21. (new) The device according to claim 19, wherein the resilient means comprises a spring means which is mounted between the proximal end of the body and a stop means within the housing.

22. (new) The device according to claim 21, wherein the spring means comprises a coil spring.

23. (new) The device according to claim 19, in combination with forceps, wherein the device is mounted on the forceps and the resilient means is provided by the resilience of the forceps.

24. (new) The device according to claim 23, in combination with forceps wherein said actuation means comprises a coupling provided between said body of the device and an arm of the forceps.

25. (new) The device according to claim 24, in combination with forceps, wherein the coupling is formed integrally with the body.

26. (new) The device according to claim 19, wherein the opening is defined by a re-entrant end wall portion of the housing.

27. (new) The device according to claim 19, wherein the inner surface of the housing tapers inwardly towards the opening.

28. (new) The device according to claim 19, wherein the actuation means comprises a pullwire secured to the body.

29. (new) The device according to claim 19, wherein at least the end of the body which obstructs the opening can wobble from side to side when the body is in said second position.

30. (new) The device according to claim 19, further comprising first and second arms and said actuation means is coupled to at least one of said first and second arms.

31. (new) The device according to claim 30, wherein said actuation means is a coupling provided between said body of the device and the at least one of said first and second arms.

32. (new) The device according to claim 31, wherein said coupling is a support bar.

33. (new) The device according to claim 30, wherein said actuation means is integrally formed with said body.

34. (new) The device according to claim 30, wherein said first and second arms are spring biased towards or away from each other and the resilient means is provided by the spring bias of said first and second arms.

35. A device for temporarily shielding the end of a surgical instrument sharp, comprising:

- a housing having a proximal end and a distal end;
- an opening formed in the distal end of the housing for receiving an end of a surgical instrument sharp therethrough;
- a body located in the housing and movable between a first position in which an end of the body obstructs the opening and a second position in which the body is retracted from the opening;
- first and second arms movable relative to each other;

- a support bar to couple the body to one of said first and second arms; and
- wherein movement of the first and second arms relative to each other causes the support bar to move the body between said first and second positions.

REMARKS

Applicant has amended the application and submits that substantial care has been taken to avoid the introduction of any new subject matter into the application as a result of the foregoing amendments.

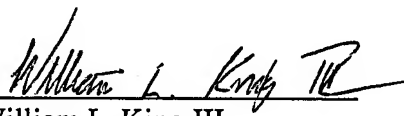
In particular, Applicant has cancelled claims 1-18 and added new claims 19-35. Applicant submits that the specification is replete with support for such claims. Thus, it is respectfully submitted that claims 19-35 introduce no new matter and are otherwise proper.

In light of the foregoing, Applicant respectfully submits that the Application is in *prima facie* condition for allowance at the present time. Accordingly, Applicant respectfully requests consideration of the present application and passage toward issuance thereof.

Respectfully submitted

KING & JOVANOVIC, PLC

Dated: 6/9/05


William L. King III
Reg. No. 46,830

KING & JOVANOVIC, PLC
170 College Avenue, Suite 230
Holland, Michigan 49423
Phone (616) 355-0400
Facsimile (616) 355-9862

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(71) Applicant and

(72) Inventor: MCNICHOLL, Brian [GB/GB]; 32 Cranmore
Avenue, Lisburn Road, Belfast BT9 6JH (GB).

(74) Agents: DRAPER, Martyn, John et al.; Boulton
Tennant, Verulam Gardens, 70 Gray's Inn Road, London
WC1X 8BT (GB).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR,
CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR,
KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN,
MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU,
SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA,
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GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE,
SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA,
GN, GQ, GW, ML, MR, NE, SN, TD, TG).

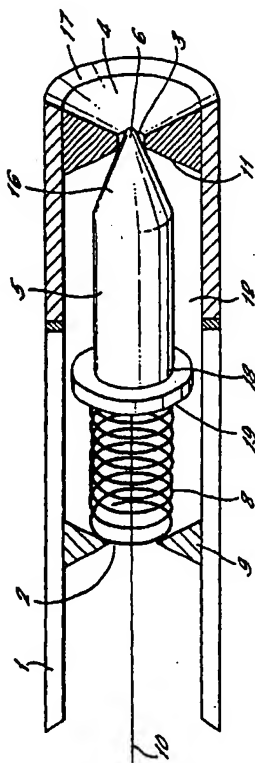
Declaration under Rule 4.17:

— of inventorship (Rule 4.17(iv)) for US only

[Continued on next page]

(54) Title: A DEVICE FOR TEMPORARILY SHIELDING THE END OF A SURGICAL INSTRUMENT SHARP

(57) Abstract: The present invention relates to a device for temporarily shielding the end of a surgical instrument sharp. The device comprises a housing (1) having a proximal end and a distal end. An opening (3) is formed in the distal end of the housing for receiving an end of a surgical instrument sharp (7) therethrough. A body (5) located in the housing is movable between a first position in which an end of the body obstructs the opening and a second position in which the body is retracted from the opening. A resilient means (8) is provided for biasing the body into the first position. The device further comprises actuation means (10) to move the body against the action of the resilient means into the second position.





Published:

— without international search report and to be republished
upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

A DEVICE FOR TEMPORARILY SHIELDING THE END OF A
SURGICAL INSTRUMENT SHARP

5 The present invention relates to a device for temporarily shielding the end of a surgical instrument sharp. In particular the present invention relates to a medical device to temporarily shield the end of a suture needle to allow for its removal from tissue safely without allowing the needle to prick the
10 operator or patient unintentionally.

Suturing of body tissue is usually performed with a needle-holder or by a hand-held technique where the needle is guided into the tissue on one side of a
15 wound. Forceps steady the tissue while the needle is inserted with a needle holder. The needle is then pushed beneath the skin to the other side of the wound and then pushed upwards and out of the skin from below. The needle is removed with either forceps or
20 the needle holder which has released the needle after insertion. The suture thread is drawn through the tissue on both sides of the wound by way of being attached to the needle, and a knot is then tied. Tightening the knot then pulls both sides of the wound
25 together.

It is known in the art to provide a surgical instrument sharp end foil for receiving and permanently trapping the free end of a surgical
30 instrument sharp after use. Such a device provides a means for ensuring the permanent disposal and non re-use of surgical instrument sharps.

There is, however, a need for a device which is
35 suitable for housing an end of a surgical instrument

sharp, such as a suture needle, to enable the end of the surgical instrument sharp to be temporarily shielded so that it can be used again. Such a device is required, for example, to shield the end of a surgical instrument sharp during a medical procedure.

This is due to the fact that if the end of a surgical instrument sharp is not shielded in any way during a medical procedure, such as suturing, the end of the surgical instrument sharp may stab the operator or their assistant causing an injury. This type of injury can cause damage to the patient or transmission of infection when there is infected blood or body fluids on the needle. Infections such as Hepatitis B and C and Human Immunodeficiency Virus infections are among the more serious of these.

Such injuries usually occur when the operator or their assistant stabs themselves with the end of the surgical instrument sharp while in the process of carrying out medical procedures involving surgical instrument sharps such as in the suturing of a wound. They also occur when a surgical instrument sharp is being brought from one part of the operating theatre to another and being passed from person to person. In a crowded theatre especially when busy, the exposed end of the surgical instrument sharp is a hazard to staff.

The present invention aims to address at least some of the problems associated with the prior art.

Accordingly, the present invention provides a device for temporarily shielding the end of a surgical instrument sharp comprising:

a housing having a proximal end and a distal end;

an opening formed in the distal end of the housing for receiving an end of a surgical instrument sharp therethrough;

a body located in the housing and movable between a first position in which an end of the body obstructs the opening and a second position in which the body is retracted from the opening;

resilient means for biasing the body into the first position; and

actuation means to move the body against the action of the resilient means into the second position.

Preferably the body is a piston with a tapered distal end.

Preferably the distal end of the body does not extend beyond the distal end of the housing when it is in said first position.

The resilient means may be a spring means which is mounted between the proximal end of the body and a stop means within the housing.

Preferably the spring means is a coil spring.

In another embodiment the device may be in combination with forceps and the resilient means can be provided by the resilience of the forceps. In this embodiment the actuation means is preferably a coupling between the body of the device and an arm of the forceps which causes movement of the body when the forceps are operated.

In one embodiment the opening is defined by a re-entrant end wall portion of the housing.

5 In a further embodiment the inner surface of the housing tapers inwardly towards the opening.

In another embodiment the actuation means comprises a pullwire secured to the body. Advantageously, a pullwire may be employed in embodiments whereby the housing curves through angles up to 90°, and larger
10 angles if pulleys are provided to mount the pullwire.

15 In another embodiment the body can wobble from side to side.

Viewed from a further aspect, the present invention relates to a device for temporarily shielding the end of a surgical instrument sharp comprising: a
20 housing having a proximal end and a distal end; an opening formed in the distal end of the housing for receiving an end of a surgical instrument sharp therethrough; a body located in the housing and movable between a first position in which an end of
25 the body obstructs the opening and a second position in which the body is retracted from the opening; first and second arms movable relative to each other; a support bar to couple the body to one of said first and second arms; wherein movement of the
30 first and second arms relative to each other causes the support bar to move the body between said first and second positions. The support bar and the body may be formed integrally as a single component.

35 For a better understanding of the invention it will

now be described, by way of example, with reference to the accompanying drawings, in which:

- 5 Fig. 1 is a partial cross section of one embodiment of the device;
- 10 Fig. 2 is a partial cross section of the device showing the free end of a suture needle lodged in the device.
- 15 Fig. 3 is a perspective view of the device in use showing the device preparing to receive a suture needle from a wound.
- 20 Fig. 4 is a schematic cross section of a further embodiment of the device when the device is angled.
- 25 Fig. 5 is a perspective view of a further embodiment of the device mounted on forceps in a first position.
- 30 Fig. 6 is a perspective view of the embodiment of the device shown in Fig. 5 in a second position.
- 35 Fig. 7 is a cross-sectional view of a still further embodiment of the device mounted on forceps in a first position.
- 40 Fig. 8 is a perspective view of the embodiment of the device shown in Figure 7 in a second position.
- 45 Fig. 9 is a perspective view of a further

embodiment of the device mounted on forceps.

As shown in Figures 1 to 6 the device comprises a housing 1 in the form of a tubular wall which is shown circular in cross section but could be any other desired shape. The housing 1 is typically made of metal.

The housing 1 can be formed of one complete part or it can be formed of separate parts, for example two separate parts as shown in Figures 1 to 3. If the housing 1 is formed of separate parts then any suitable means can be used to join the separate parts rigidly together. For example, if the separate parts are metal, they can be welded together.

The device can be completely straight, as shown in Figures 1 to 3, 5 and 6 or angled, as shown in Figure 4, depending on the demands of different wounds. An angled device enables the operator to remove needles from tissues of different depths or positions where access to the tissue being sutured is restricted.

It is possible that where the housing 1 is formed of two separate parts, these parts can project at a variable angle from each other.

The housing 1 has a proximal end and a distal end. The distal end of the device is the end shown in Figures 1 and 2 which is towards the right hand side of the page and the proximal end of the device is towards the left hand side of the page.

The housing 1 is partially closed at the distal end

by a wall 11 with a central opening 3. The opening 3 is defined by a re-entrant end wall portion 4 which shapes back into the housing 1 so that the opening 3 is recessed from the distal extremity of the housing 1. The size of the opening 3 is dependent on the surgical instrument sharp which it is intended to receive.

The inner surface of the housing 1 tapers inwardly towards opening 3.

As shown in Figures 1, 2 and 4 the housing 1 defines a chamber 12 which contains a body in the form of a piston 5. The piston 5 has a proximal end 18 preferably having a larger cross-section than the rest of the piston 5. The proximal end 18 of the piston 5 is dimensioned to ensure a relatively tight fit within the housing 1, whilst still being movable axially within the chamber 12. The proximal end 18 of the piston 5 is therefore usually of the same cross-sectional shape as the chamber 12, although this would not be essential. Figures 1 and 2 overemphasize the gap between the proximal end 18 of the piston 5 and the sides of the housing 1. In reality there would be a much smaller gap, to ensure a tight fit thus allowing the proximal end 18 of the piston 5 to move within the chamber 12, keeping to the midline.

In a preferred embodiment a washer 26, as shown in Figure 4, may be situated between the proximal end 18 of the piston 5 and the distal end 19 of the spring 8. This ensures that the piston 5 when retracted does not slip inside the spring 8.

The rest of the body of the piston 5 is preferably dimensioned to ensure that there is not a tight fit between the sides of the housing 1 and the piston 5 but instead that there is adequate space between the body of the piston 5 and the sides of the housing 1 to ensure that a needle can be lodged between the sides of the piston 5 and the sides of the housing 1. Preferably, the diameter of the piston should be between 50 to 70 % of the internal diameter of chamber 12.

The piston 5 can take up any length within the housing 1 provided that some axial movement is still possible.

The piston 5 has a tapered distal end 16. The tip 6 of the tapered distal end 16 of the piston 5 is of such a shape and size that when the piston 5 is at rest, the tip 6 lodges in the opening 3, with a small portion of the tip 6 protruding through the opening 3.

The tip 6 of the piston 5 whilst pointed is shaped such that it is not sharp enough to cause any harm.

Attached to the proximal end 18 of the piston 5 is a resilient member such as a coil spring 8 which is partly in compression. The proximal end 2 of the spring 8 is lodged against a stop 9 on the inner wall of the housing 1. The distal end 19 of the spring 8 is attached to the proximal end 18 of the piston 5. The spring 8 is dimensioned to ensure a tight fit within the housing 1, whilst still being movable axially within the chamber 12. The spring 8 is therefore usually of the same cross-sectional shape

as the chamber 12 although this would not be essential. Figures 1 and 2 over emphasize the gap between the spring 8 and the sides of the housing 1. In reality there would be a much smaller gap, to ensure a tight fit.

Actuation means such as a lever or a pullwire 10 is secured to the proximal end 18 of the piston 5. Actuation means such as handle, not shown in any of the Figures, could instead be attached directly to the spring 8.

Depending on the depth of the wound, the distance of the housing 1 from the surgeon's hand and/or the means for activating the actuation means can be varied by lengthening the housing 1, as shown in Figure 4. For example, for keyhole surgery this may be 30 to 60 cm (1 to 2 feet) in length.

As shown in Figure 4, the housing 1 may be curved, i.e. the device may be angled. In these angled arrangements, pulley 21 and/or tracks 22 can be spaced inside the housing 1 to reduce the likelihood of the pullwire actuation means snagging or catching in the housing 1. Preferably the pulleys 21 and/or tracks 22 are situated in the housing 1 after the proximal end 2 of the spring 8. The pulleys 21 can be in the form of circular pieces of material with a central hole, preferably made of metal or plastic, by which the pullwire 10 can pass through. The pulleys 21 have the same cross section as the chamber 12 formed by the housing 1 to ensure that they are lodged against the sides of the housing 1. The tracks 22 may be beads having a channel defined therein through which the pullwire 10 runs to enable the

pullwire 10 to travel freely round corners. At least one pulley 21 and/or at least one track 22 is/are preferably provided when the device is angled. If a plurality of pulleys and/or tracks are used, they are preferably evenly spaced in the housing.

The general use of the device will now be explained. The use of the device with specific shaped needles and when attached to forceps is explained in more detail later.

In use the user will pull the piston 5 back against the force of the spring 8 using the pullwire 10.

The user can pull the pullwire 10 directly with his hand, or via an actuator or any other suitable mechanism which can be used to pull the pullwire 10. For example, the user may pull a bead or a ring attached to the pullwire 10 or a trigger-like mechanism. None of these mechanisms are shown in the Figures.

This action compresses the spring 8 to a greater extent and causes the piston 5 to retract within the housing 1 to allow the tip 6 of the piston 5 to disengage from the opening 3.

The opening 3 is then clear of obstruction to allow the end of a surgical instrument sharp such as a needle 7 to enter.

The re-entrant end wall portion 4 ensures that should the end of the needle 7 not enter the opening 3 immediately, but touch the outside edge 17 of the housing 1 instead, the sloping surface will deflect

the end of the needle 7, and channel it into the housing 1 via the opening 3.

5 The loose fitting of the body of the piston 5 enables the body of the piston 5 to move from side to side i.e. to wobble. The sideways movement or "wobble" of the piston 5 reduces the likelihood of the needle 7 lodging against the piston 5 and instead enables the needle 7 to slide off and enter further alongside the
10 piston 5 into the chamber 12.

The pointed tip 6 of the piston 5 ensures also that the sharp tip of the end of the needle 7 does not lodge against it, but deflects the needle tip
15 sideways into the housing 1, allowing the needle 7 to enter further inside the housing 1, as seen in Figure 2.

Once the free end of the needle 7 has entered the
20 opening 3 and is within the housing 1 the user will let go of the pullwire 10 which allows the spring 8 to advance the piston 5. The inner walls of the housing 1 which taper towards opening 3 guide the tapered distal end 16 and therefore the tip 6 of the
25 piston 5 towards the opening 3 as it advances. This clamps the body of the needle 7 against the inner edges of the opening 3.

The piston 5 with its ability for sideways movement
30 will accommodate itself to the lie of the needle 7 to a certain extent when it descends to ensure that the needle 7 does not move excessively on clamping. If the piston 5 was a tight fit along its length in the chamber 12 it could force the needle to move
35 excessively on clamping, the force along the shank of

the needle causing the proximal end of the needle to move within the tissue. In some tissues, for example, blood vessels, this may cause the vessel to tear.

- 5 The end of the needle 7 is now clamped within the housing 1, as shown in Figure 2, so that the end of the needle 7 is covered and cannot cause injury.

As explained earlier, suturing of body tissue is usually performed with a needle holder or by a hand held technique where the needle is guided into the tissue on one side of a wound. Forceps 23, as shown in Figure 5, having first and second spring-loaded arms 26, 27 may be used to steady the tissue while the
10 needle 7 is inserted with a needle holder. The needle 7 is then pushed beneath the skin to the other side of the wound and then pushed upwards and out of the skin from below.

- 20 An alternative embodiment of the invention is shown in Figure 5. In this embodiment the housing 1 of the device is fixed to the body of the forceps 23 at the junction between the first and second arms 26, 27. A support bar 24, mounted on the first arm 26 of the forceps 23, is attached to the piston 5 of the device
25 using any suitable means. The attachment of the device to the forceps can be permanent, such as by welding or by brazing, or the attachment can be temporary, i.e. the device can be detachable.

30

- In use the resilient action is provided by the resting tension of the forceps 23. The first and second arms 26, 27 of the forceps 23 are springingly biased open in the resting position as shown in
35 Figure 5. In the open position, tension is

transmitted via the support bar 24 to bias the piston 5 towards the distal end of the housing 1 to obstruct the opening 3.

5 The piston 5 is moved upwards away from the opening 3 in the housing 1 by compression of the first and second arms 26, 27 of the forceps 23 by the user. This compression causes the angle of the support bar 24 to change thereby causing the piston 5 to lift up,
10 as shown in Figure 6.

The tension required to cause the piston 5 to lift up can be adjusted by varying axially the position of the piston 5 relative to the support bar 24. This
15 adjustment can be achieved by providing screw threads on the proximal end 18 of the piston 5 where it is mounted in a collar provided on the support bar 24. By varying the position of the piston 5 relative to the collar the resting tension of the piston 5 and
20 also of a set of forceps teeth 25 provided on the first arm 26 can be adjusted. The piston 5 can still maintain its wobble at the distal end 6 thereof as the threads holding the piston are not tightened, i.e. they are loose and allow a small amount of
25 lateral movement when the piston is lifted up and hanging free.

An alternative embodiment of the device mounted on forceps 23 is shown in Figures 7 and 8. The forceps
30 23 comprise first and second resilient arms 26, 27 which are biased towards an open position, as shown in Figure 7. In this embodiment, the piston 5 and support bar 24 are formed integrally and the end of the support bar 24 distal from the piston 5 is
35 attached to the first arm 26 of the forceps 23. It

will be appreciated that the forceps 23 or first arm 26 may be formed integrally with the support bar 24 and piston 5.

5 As shown in Figure 7, when the first and second arms 26,27 are in their open position, the piston 5 is located in an advanced position in the housing 1 such that the opening 3 defined in an end therefore is at least partially obstructed. Preferably, the end 6 of
10 the piston 5 abuts the wall 11 of the housing 1 when the forceps 23 are in an open position.

When the first and second arms 26,27 of the forceps 23 are displaced towards each other, the support bar
15 24 is displaced and the piston 5 moves to a retracted position away from the opening 3, as shown in Figure 8. With the piston 5 in this retracted position, a needle 7 or other sharp may be received into the housing 1 through the opening 3. The first and
20 second arms 26,27 may then be released and allowed to return to their open position. This movement of the first and second arms 26,27 towards their open position causes the piston 5 to be biased towards the opening 3 thereby trapping the needle 7 in the
25 housing 1.

It will be appreciated that in this embodiment the body 5 does not move along, or parallel to, the longitudinal axis of the housing 1. Rather, the body
30 5 follows an arcuate path. This movement allows the needle 7 more readily to be received into the housing 1 to the side of the body 5 closest to the forceps 23, as shown in Figure 8. This is particularly desirable as the needle 7 is likely to be oriented
35 upwardly when, for example, a wound is being closed

and the device may be used without obstructing the user's view. In the offset open position, as shown in Figure 8, the portion of the wall 11 closest to the tip 6 of the body 5 advantageously shields the body 5 and, therefore, reduces the likelihood of the needle 7 being obstructed as it enters the housing 1.

In this arrangement, the resilience of the support bar 24 limits transverse movement of the piston 5, relative to the housing 1 and allows the needle 7 to be securely retained in the housing 1.

The forceps 23, support arm 24, piston 5 and housing 1 may be formed from a plastics material or metal. The components may be formed integrally as a single unit or formed separately and then assembled.

It will be appreciated that the device shown in Figures 7 and 8 need not be provided on a pair of forceps 23. Rather, the device may be formed as a dedicated instrument having first and second arms 26, 27 which do not form part of a pair of forceps 3. It will, of course, be appreciated that the embodiment shown in Figures 5 and 6 also need not be provided on a pair of forceps 23.

A further embodiment of the device, intended to be used only once prior to disposal along with the medical sharp retained therein, is shown in Fig. 9. The disposable device is detachably mounted on the end of the forceps 23 and has a housing 1 which is curved through 90° for use in stitching uncomplicated or readily accessible wounds. The housing 1 is preferably made of a plastic material to reduce the

cost of the device. A metal end-piece (not shown) is provided in the housing 1 to define the wall 11 having the opening 3 therein. The piston is preferably also metal for engaging positively a surgical instrument sharp inserted into the device. A
5 slidable actuating member 29 is provided on the housing 1 to retract the piston into the housing.

Disposable devices for use either with forceps or
10 independently of forceps, having housings 1 with or without curved profiles, are envisaged.

In standard suturing a curved needle is used as shown in Figures 2 and 3. A curved needle 7 will come out
15 of a wound along a curved path. To facilitate this, the user of the device will carry out a pill-rolling action with his fingers and a supinating action of the wrist causing the forceps and the device of the present invention to facilitate this curved path.
20 This rotating action will also exert a flexing force on the needle 7 helping it to lodge in the housing 1 as shown in Figure 2.

Firstly the shank of the needle 7 is clamped at the
25 inner margin 13 of the opening 3 by the piston 5. Secondly the tip of the end of the needle may be lodged against the inner side surface of the housing 1. Third, the shank of the needle 7 may lodge against the outer margin 14 of the opening 3. Fourth, the end
30 of the shank of the needle 7 is held within the tissue of the wound 15. This rotating hand action, along a path similar to the concave curve of the needle 7, will tend to flex the needle 7, increasing its concavity. The tissues will require torque by the
35 device to extract the needle 7. As the tissue

friction varies, depending on the type of wound, so will the torque required. The greater the torque required the more securely the needle 7 is lodged against the surfaces it rest upon.

5 This twisting force will help to lodge the needle 7 firmly in the device and reduce the likelihood of it slipping out where there is significant resistance from the tissue.

10 When used with straight needles the tip of the end of the needle 7 again lodges against the side of the inner surface of the housing 1 but because there is no curvature the shank does not. The straight needle is held by the piston 5, and when a torque is
15 created, the tip of the end of the needle 7 lodges against the inner surfaces of the housing 1 and against the margins 14 of the opening 3.

It is then possible, for example, when used in
20 suturing for the needle 7 to be pulled by the user of the device from the tissue along with the thread, and a knot tied.

When the needle 7 is ready to be discarded it can be
25 carried in the device to the nearest disposal unit. It can be passed safely to another member of the surgical team for disposal.

The housing 1 of the device can be configured so that
30 it may be removably attached to other medical instruments, for example the end of a forceps or it may be configured for stand alone use such as in keyhole surgery.

35 Even though in a preferred embodiment the invention

is described with reference to a needle used for the application of sutures to wounds of the skin or deeper tissues in a wide variety of surgical procedures it is to be understood that the present
5 invention can also be applied to any surgical instrument sharp, for example hypodermic needles, syringes, trocars and stylets.

It will be appreciated that the device described
10 herein may be used for surgical needles, hollow needles suitable for taking blood, wires and rods. The device is also suitable for trapping the end of a thread or a string thereby further increasing the usefulness of the device for wound closure. An
15 enlarged version of the device is also envisaged to assist in rod handling.

The device may also be used to shield a sewing needle when cloth or fabric is being stitched. The device
20 may also be used to shield wires and the like during, for example, the assembly of electrical circuit boards.

CLAIMS:

1. A device for temporarily shielding the end of a surgical instrument sharp comprising:
- 5 a housing having a proximal end and a distal end;
- an opening formed in the distal end of the housing for receiving an end of a surgical instrument sharp therethrough;
- 10 a body located in the housing and movable between a first position in which an end of the body obstructs the opening and a second position in which the body is retracted from the opening;
- resilient means for biasing the body into the
- 15 first position; and
- actuation means to move the body against the action of the resilient means into the second position.
- 20 2. A device as claimed in claim 1 wherein the body is a piston with a tapered distal end.
3. A device as claimed in any one of the preceding claims wherein the resilient means is a spring means
- 25 which is mounted between the proximal end of the body and a stop means within the housing.
4. A device as claimed in claim 3 wherein the spring means is a coil spring.
- 30 5. A device as claimed in claim 1 or 2 in combination with forceps, wherein the device is mounted on the forceps and the resilient means is provided by the resilience of the forceps.

6. A device as claimed in claim 5 in combination with forceps wherein said actuation means is a coupling provided between said body of the device and an arm of the forceps.

5

7. A device as claimed in claim 6 in combination with forceps, wherein the coupling is formed integrally with the body.

10 8. A device as claimed in any one of the preceding claims wherein the opening is defined by a reentrant end wall portion of the housing.

15 9. A device as claimed in any one of the preceding claims wherein the inner surface of the housing tapers inwardly towards the opening.

20 10. A device as claimed in any one of the preceding claims wherein the actuation means comprises a pullwire secured to the body.

25 11. A device as claimed in any one of the preceding claims wherein at least the end of the body which obstructs the opening can wobble from side to side when the body is in said second position.

30 12. A device as claimed in claim 1 further comprising first and second arms and said actuation means is coupled to at least one of said first and second arms.

35 13. A device as claimed in claim 12 wherein said actuation means is a coupling provided between said body of the device and the at least one of said first and second arms.

14. A device as claimed in claim 13 wherein said coupling is a support bar.

15. A device as claimed in claim 12, 13 or 14
5 wherein said actuation means is integrally formed with said body.

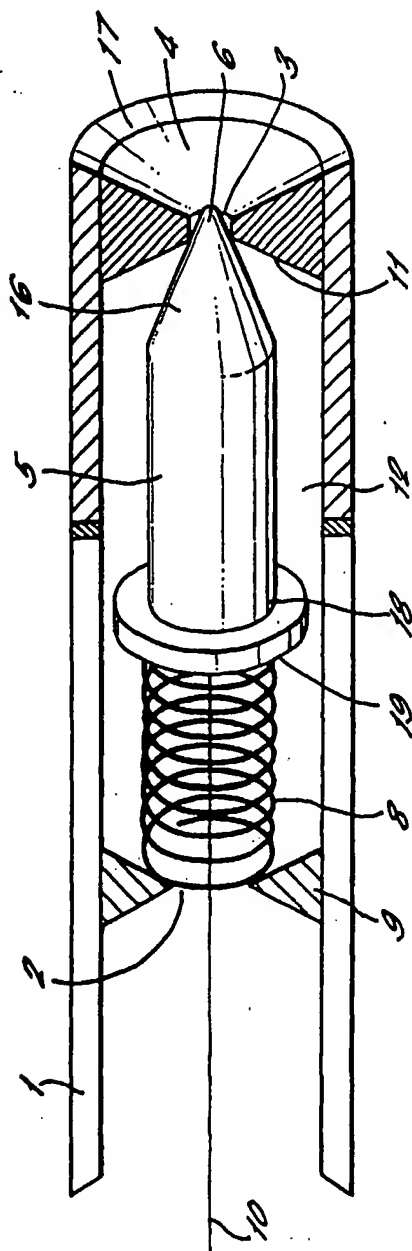
16. A device as claimed in any one of claims 12 to 15 wherein said first and second arms are spring
10 biased towards or away from each other and the resilient means is provided by the spring bias of said first and second arms.

17. A device for temporarily shielding the end of a
15 surgical instrument sharp comprising:
a housing having a proximal end and a distal end;
an opening formed in the distal end of the housing for receiving an end of a surgical instrument
20 sharp therethrough;
a body located in the housing and movable between a first position in which an end of the body obstructs the opening and a second position in which the body is retracted from the opening;
25 first and second arms movable relative to each other;
a support bar to couple the body to one of said first and second arms;
wherein movement of the first and second arms
30 relative to each other causes the support bar to move the body between said first and second positions.

18. A device for shielding a surgical instrument sharp substantially as hereinbefore described and
35 with reference to the accompanying drawings.

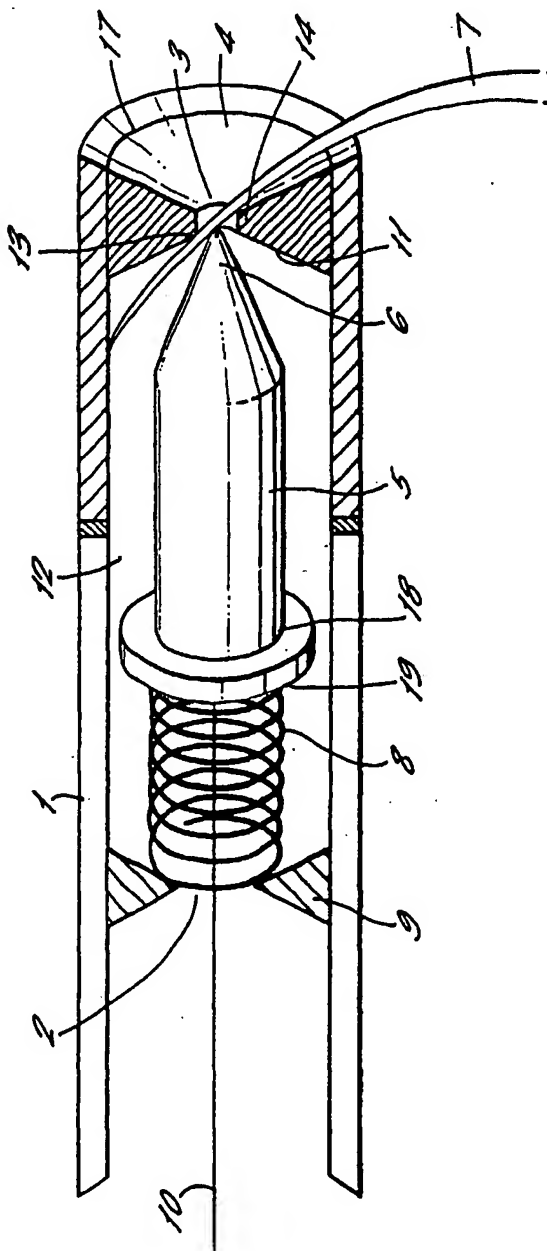
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FIG. 1.



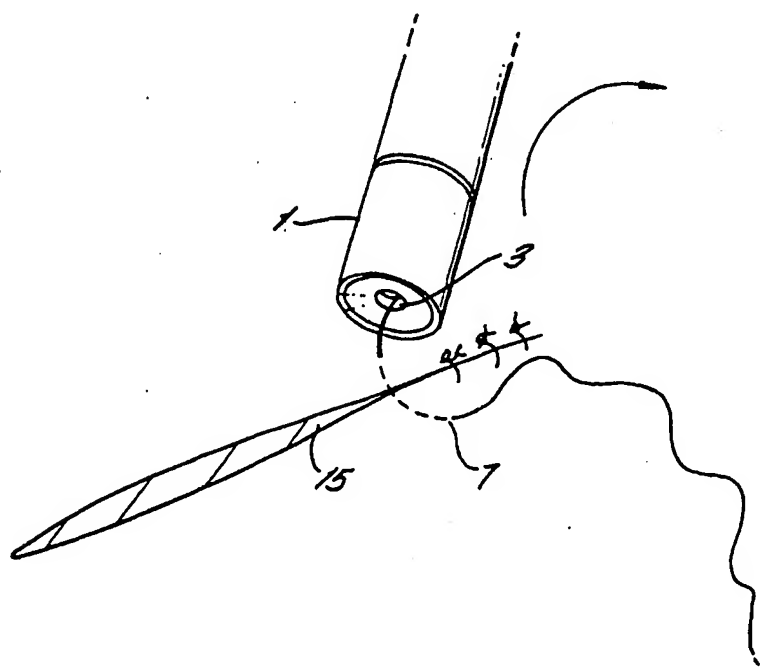
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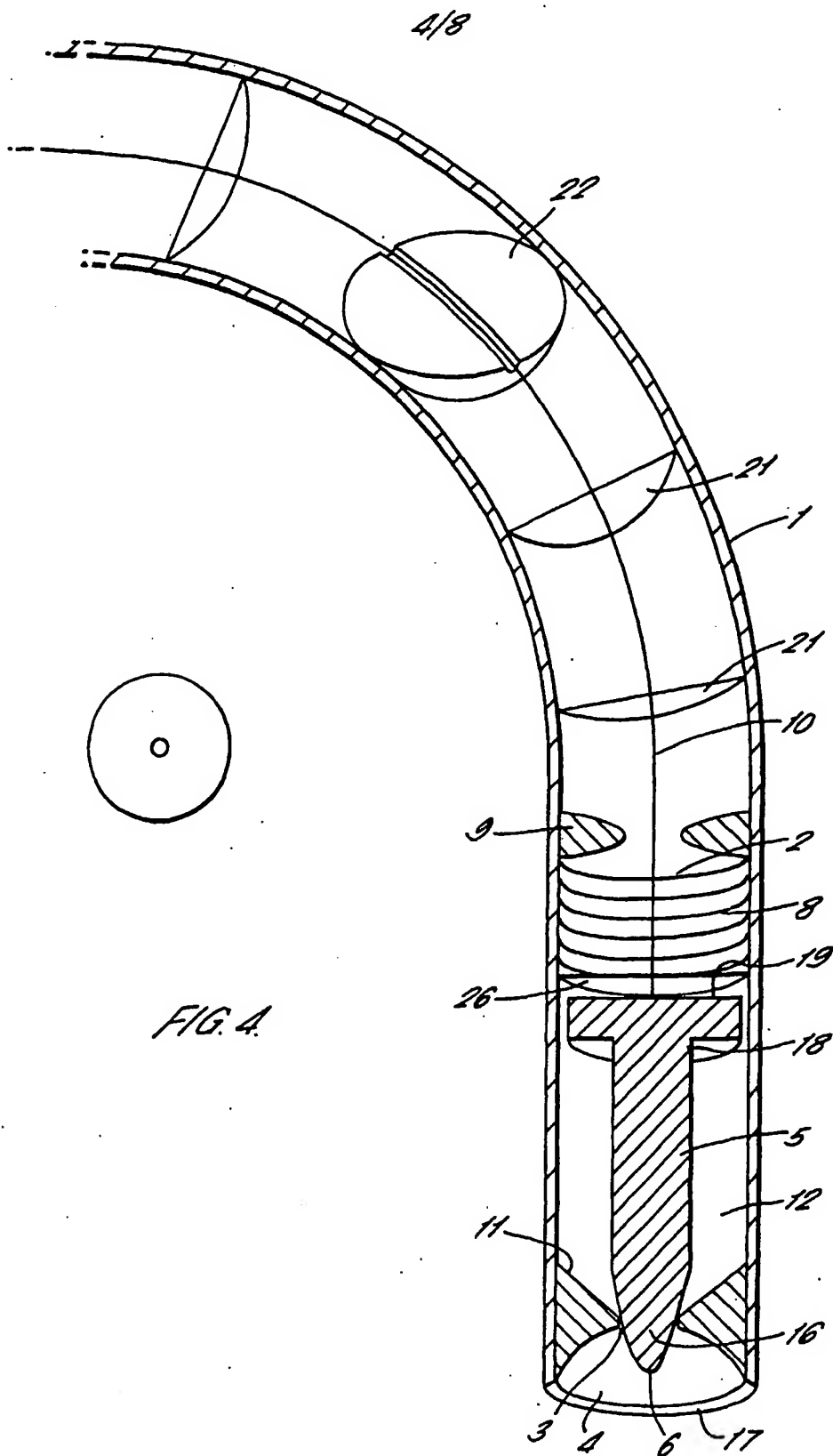
FIG. 2.



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FIG. 3.





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FIG. 5.

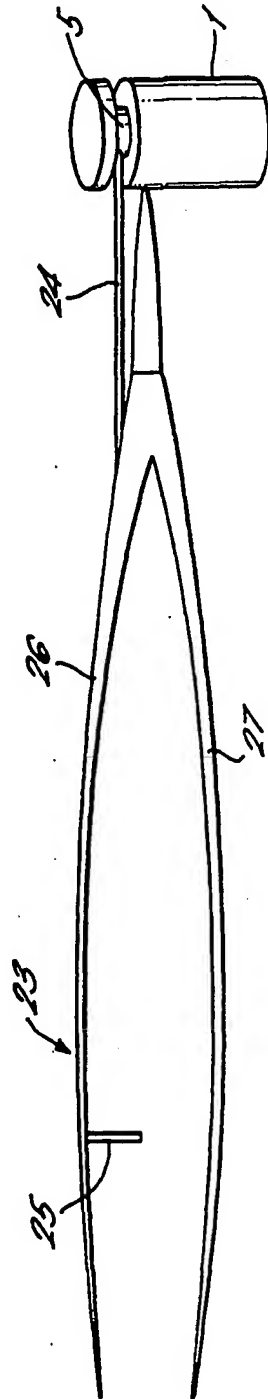
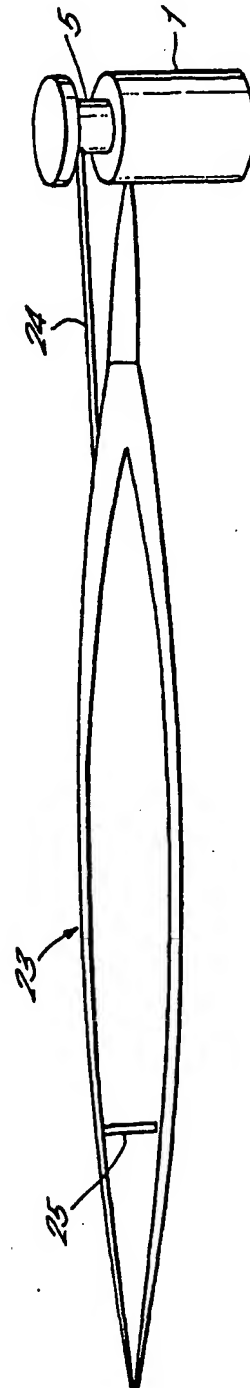
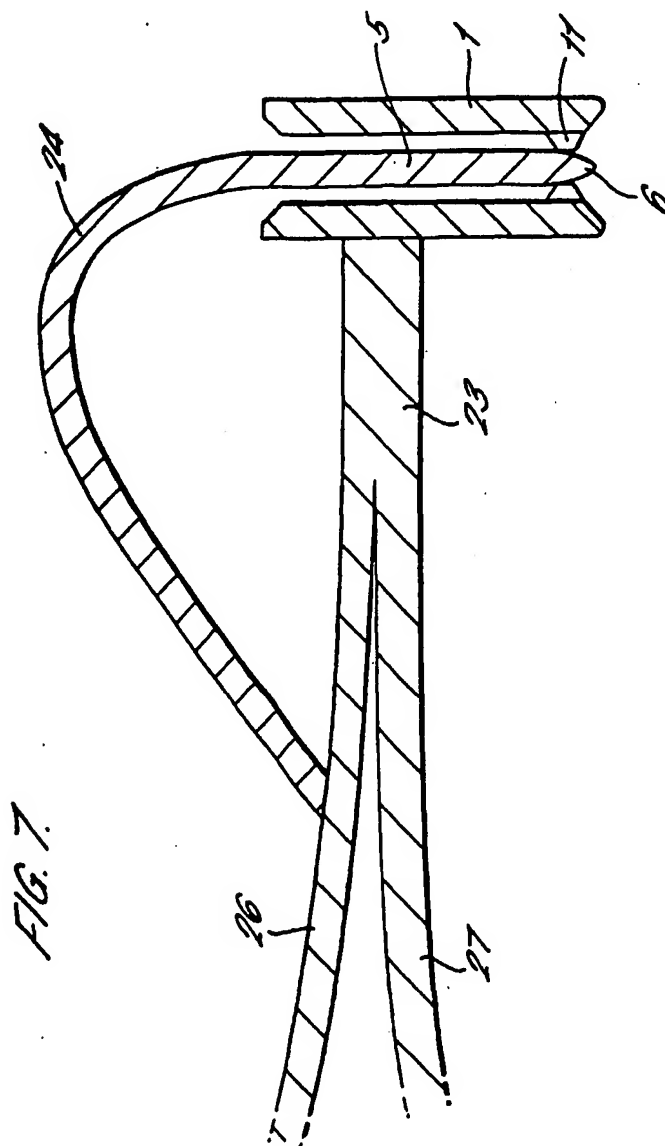


FIG. 6.



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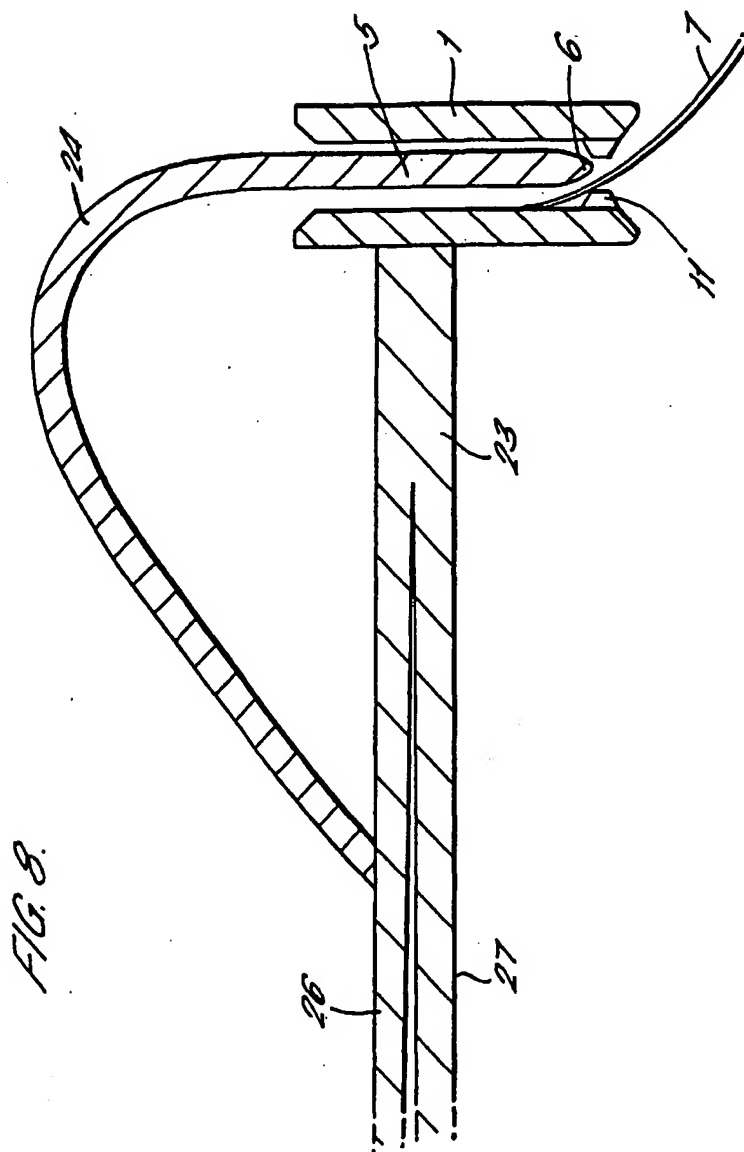
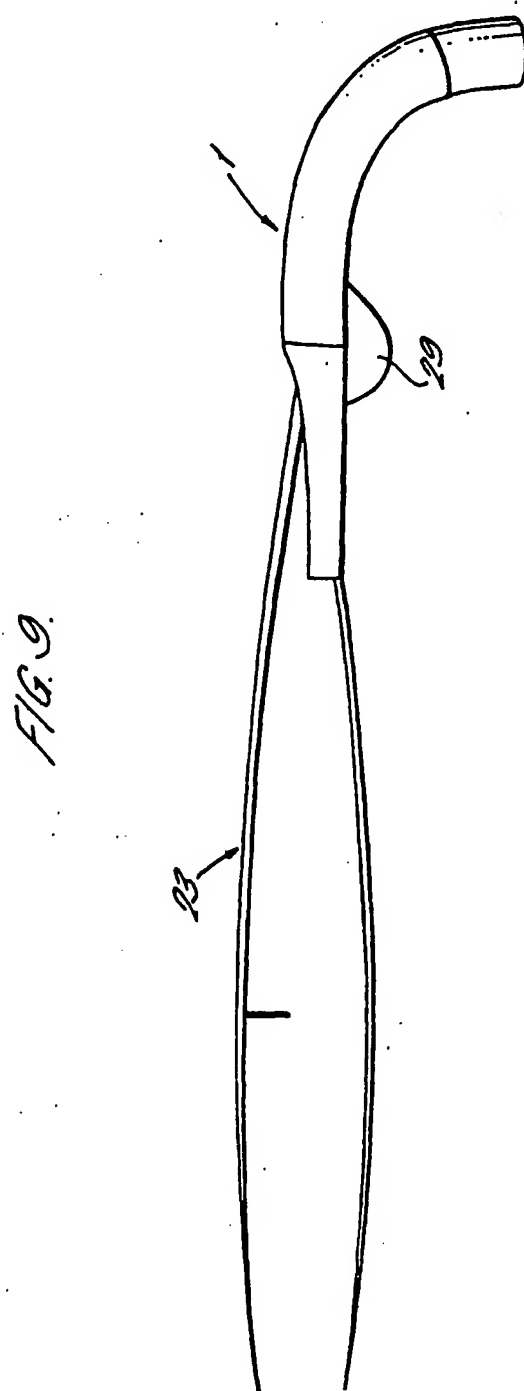


FIG. 8.

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/GB 03/05347

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A61B17/04

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 A61B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 908 426 A (PIERCE JAVIN) 1 June 1999 (1999-06-01) column 6, line 16 - line 51; figures 7,8 ---	1,17,18
A	US 2002/123757 A1 (FRYE DARRIN L) 5 September 2002 (2002-09-05) paragraph '0026!; figure 5 ---	1,3,4, 10,17,18
A	US 4 949 717 A (SHAW EDWARD L) 21 August 1990 (1990-08-21) figures 1,2 -----	1,17,18

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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Date of the actual completion of the international search

1 June 2004

Date of mailing of the international search report

09/06/2004

Name and mailing address of the ISA

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NL - 2280 HV Rijswijk
Tel: (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

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Ducreau, F

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB 03/05347

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5908426	A	01-06-1999	NONE
US 2002123757	A1	05-09-2002	NONE
US 4949717	A	21-08-1990	NONE

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DECLARATION FOR UTILITY OR DESIGN PATENT APPLICATION (37 CFR 1.63)		Attorney Docket Number	IPG-051112
		First Named Inventor	McNicholl
		COMPLETE IF KNOWN	
		Application Number	N/A
		Filing Date	June 9, 2005
<input checked="" type="checkbox"/> Declaration Submitted With Initial Filing OR <input type="checkbox"/> Declaration Submitted after Initial Filing (surcharge (37 CFR 1.16 (e)) required)		Art Unit	N/A
		Examiner Name	N/A

I hereby declare that:

Each inventor's residence, mailing address, and citizenship are as stated below next to their name.

I believe the inventor(s) named below to be the original and first inventor(s) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

A DEVICE FOR TEMPORARILY SHIELDING THE END OF A SURGICAL INSTRUMENT SHARP

(Title of the Invention)

the specification of which

☒ is attached hereto

OR

☐ was filed on (MM/DD/YYYY) as United States Application Number or PCT International

Application Number and was amended on (MM/DD/YYYY) (if applicable).

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment specifically referred to above.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or (f), or 365(b) of any foreign application(s) for patent, inventor's or plant breeder's rights certificate(s), or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below by checking the box, any foreign application for patent, inventor's or plant breeder's rights certificate(s), or any PCT international application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application Number(s)	Country	Foreign Filing Date (MM/DD/YYYY)	Priority Not Claimed	Certified Copy Attached?	
				Yes	No
0228709.2 0318815.8	GB GB	12/09/2002 08/11/2003	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

☐ Additional foreign application numbers are listed on a supplemental priority data sheet PTO/SB/02B attached hereto:

[Page 1 of 2]

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C 122 and 37 CFR 1.14. This collection is estimated to take 21 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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Name William L. King III							
Address 170 College Avenue, Suite 230							
City Holland				State MI		ZIP 49423	
Country US		Telephone (616) 355-0400			Fax (616) 355-9862		
I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.							
NAME OF SOLE OR FIRST INVENTOR:				<input type="checkbox"/> A petition has been filed for this unsigned inventor			
Given Name (first and middle [if any]) Brian				Family Name or Surname McNicholl			
Inventor's Signature						Date	
Residence: City Belfast		State		Country UK		Citizenship UK	
Mailing Address 32 Cranmore Avenue, Lisburn Road							
City Belfast		State		ZIP BT9 6JH		Country UK	
NAME OF SECOND INVENTOR:				<input type="checkbox"/> A petition has been filed for this unsigned inventor			
Given Name (first and middle [if any])				Family Name or Surname			
Inventor's Signature						Date	
Residence: City		State		Country		Citizenship	
Mailing Address							
City		State		ZIP		Country	
<input type="checkbox"/> Additional inventors or a legal representative are being named on the _____ supplemental sheet(s) PTO/SB/02A or 02LR attached hereto.							

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POWER OF ATTORNEY and CORRESPONDENCE ADDRESS INDICATION FORM

Application Number	N/A
Filing Date	June 9, 2005
First Named Inventor	McNicholl
Title	A Device for Temporarily Shielding the End of a Surgical Instrument Sharp
Art Unit	N/A
Examiner Name	N/A
Attorney Docket Number	IPG-051112

I hereby appoint:

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☐ Assignee of record of the entire interest. See 37 CFR 3.71.
Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96).

SIGNATURE of Applicant or Assignee of Record

Name	Brian McNicholl		
Signature			
Date		Telephone	

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☒ *Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.31 and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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Payment Amount: \$(US Dollars): \$1,030.00

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Description of Request and Payment Information:
USPTO Filing Fee

Patent Fee	Patent Maintenance Fee	Trademark Fee	Other Fee
Application No. N/A	Application No.	Serial No.	IDON Customer No.
Patent No. N/A	Patent No.	Registration No.	
Attorney Docket No. IPG-051112		Identify or Describe Mark	

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In re Application of: McNicholl
Case: IPG-051112
Serial No.: To Be Assigned
Filed On: June 9, 2005
For: A DEVICE FOR TEMPORARILY SHIELDING
THE END OF A SURGICAL INSTRUMENT
SHARP

CERTIFICATE OF MAILING BY "EXPRESS MAIL"

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Date of Deposit – June 9, 2005

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Date Accepted 6 9 05 Mo. Day Year	Scheduled Date of Delivery 6 10 Month Day	Return Receipt Fee \$		Mo. Day	Time <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM	Employee Signature	
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	Int'l Alpha Country Code	Acceptance Emp. Initials Kw		<input type="checkbox"/> WAIVER OF SIGNATURE (Domestic Mail Only) Additional merchandise insurance is void if waiver of signature is requested. I wish delivery to be made without obtaining signature of addressee or addressee's agent (if delivery employee judges that article can be left in secure location) and I authorize that delivery employee's signature constitutes valid proof of delivery.			
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IPG 051112							
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June 9, 2005

10/538675

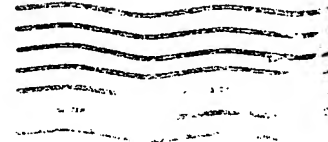
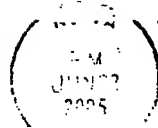
The United States Patent and Trademark Office mailroom stamp hereon acknowledges receipt of the following:

U.S. Letters Patent Entitled: A DEVICE FOR TEMPORARILY SHIELDING
THE END OF A SURGICAL INSTRUMENT SHARP invented by McNicholl.

Including:

Transmittal Letter to the United States Designated/Elected Office;
Preliminary Amendment;
A Copy of the International Application as Published;
Declaration and Power of Attorney;
PTO Form 2038 for fees identified thereon; and
Certificate of Mailing by Express Mail.

IPG-051112 JC02 Rec'd PCT/PTO 09 JUN 2005



Law Offices
King & Jovanovic, PLC
170 College Avenue, Suite 230
Holland, Michigan 49423



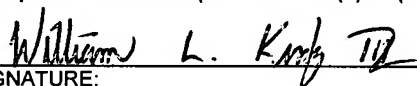
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TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A SUBMISSION UNDER 35 U.S.C. 371		ATTORNEY'S DOCKET NUMBER IPG-051112
		U.S. APPLICATION NO. (If known, see 37 CFR 1.5)
INTERNATIONAL APPLICATION NO. PCT/GB03/05347	INTERNATIONAL FILING DATE 09/12/2003	PRIORITY DATE CLAIMED 09/12/2002
TITLE OF INVENTION A Device for Temporarily Shielding the End of a Surgical Instrument Sharp		
APPLICANT(S) FOR DO/EO/US McNicholl		
<p>Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:</p> <ol style="list-style-type: none"> 1. <input checked="" type="checkbox"/> This is a FIRST submission of items concerning a submission under 35 U.S.C. 371. 2. <input type="checkbox"/> This is a SECOND or SUBSEQUENT submission of items concerning a submission under 35 U.S.C. 371. 3. <input checked="" type="checkbox"/> This is an express request to begin national examination procedures (35 U.S.C. 371 (f)). The submission must include items (5), (6), (9) and (21) indicated below. 4. <input checked="" type="checkbox"/> The US has been elected (Article 31). 5. <input checked="" type="checkbox"/> A copy of the International Application as filed (35 U.S.C. 371 (c)(2)) <ol style="list-style-type: none"> a. <input type="checkbox"/> is attached hereto (required only if not communicated by the International Bureau). b. <input checked="" type="checkbox"/> has been communicated by the International Bureau. c. <input type="checkbox"/> is not required, as the application was filed in the United States Receiving Office (RO/US). 6. <input type="checkbox"/> An English language translation of the International Application as filed (35 U.S.C. 371 (c)(2)). <ol style="list-style-type: none"> a. <input type="checkbox"/> is attached hereto. b. <input type="checkbox"/> has been previously submitted under 35 U.S.C. 154(d)(4). 7. <input checked="" type="checkbox"/> Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3)) <ol style="list-style-type: none"> a. <input type="checkbox"/> are attached hereto (required only if not communicated by the International Bureau). b. <input type="checkbox"/> have been communicated by the International Bureau. c. <input type="checkbox"/> have not been made; however, the time limit for making such amendments has NOT expired. d. <input checked="" type="checkbox"/> have not been made and will not be made. 8. <input type="checkbox"/> An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)). 9. <input checked="" type="checkbox"/> An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)). 10. <input type="checkbox"/> An English language translation of the annexes of the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)). <p>Items 11 to 20 below concern document(s) or information included:</p> <ol style="list-style-type: none"> 11. <input type="checkbox"/> An Information Disclosure Statement under 37 CFR 1.97 and 1.98. 12. <input type="checkbox"/> An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included. 13. <input checked="" type="checkbox"/> A preliminary amendment. 14. <input type="checkbox"/> An Application Data Sheet under 37 CFR 1.76. 15. <input type="checkbox"/> A substitute specification. 16. <input checked="" type="checkbox"/> A power of attorney and/or change of address letter. 17. <input type="checkbox"/> A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 37 CFR 1.821 - 1.825. 18. <input checked="" type="checkbox"/> A second copy of the published International Application under 35 U.S.C. 154(d)(4). 19. <input type="checkbox"/> A second copy of the English language translation of the International Application under 35 U.S.C. 154(d)(4). 20. <input checked="" type="checkbox"/> Other items or information: Return Postcard, Power of Attorney, and Certificate of Express Mail. 		

This collection of information is required by 37 CFR 1.414 and 1.491-1.492. The information is required to obtain or retain a benefit by the public, which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 15 minutes to complete, including gathering information, preparing, and submitting the completed form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop PCT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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U.S. APPLICATION NO. (if known, see 37 CFR 1.5)		INTERNATIONAL APPLICATION NO. PCT/GB03/05347		ATTORNEY'S DOCKET NUMBER IPG-051112	
The following fees have been submitted				CALCULATIONS PTO USE ONLY	
21.	<input checked="" type="checkbox"/> Basic national fee		\$300.00	\$ 300.00	
22.	<input checked="" type="checkbox"/> Examination fee				
If International preliminary examination report prepared by USPTO and all claims satisfy provisions of PCT Article 33(1)-(4)				\$100.00	
All other situations				\$200.00	
23.	<input checked="" type="checkbox"/> Search fee				
Search fee (37 CFR 1.445(a)(2)) has been paid on the international application to the USPTO has an International Searching Authority				\$100.00	
International Search Report prepared and provided to the Office				\$400.00	
All other situations				\$500.00	
TOTAL OF 21, 22 and 23 =				\$900.00	
<input type="checkbox"/> Additional fee for specification and drawings filed in paper over 100 sheets (excluding sequence listing or computer program listing filed in an electronic medium). The fee is \$250 for each additional 50 sheets of paper or fraction thereof.					
Total Sheets	Extra sheets	Number of each additional 50 or fraction thereof (round up to a whole number)	RATE		
20	-100 = 0	/50 = 0	x \$250.00	\$ 0.00	
Surcharge of \$130.00 for furnishing the oath or declaration later than 30 months from the earliest claimed priority date (37 CFR 1.492(h)).				\$130.00	
CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE		
Total claims	20 - 20 =	0	X \$50.00	\$ 0.00	
Independent claims	3 - 3 =	0	X \$200.00	\$ 0.00	
MULTIPLE DEPENDENT CLAIM(S) (if applicable)			+ \$360.00	\$ 0.00	
TOTAL OF ABOVE CALCULATIONS =				\$1,030.00	
<input checked="" type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced by 1/2.					
SUBTOTAL =				\$1,030.00	
Processing fee of \$130.00 for furnishing the English translation later than 30 months from the earliest claimed priority date (37 CFR 1.492(i)).				\$ 0.00	
TOTAL NATIONAL FEE =				\$1,030.00	
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property				\$ 0.00	
TOTAL FEES ENCLOSED =				\$1,030.00	
				Amount to be refunded:	\$
				Amount to be charged:	\$
a. <input type="checkbox"/> A check in the amount of \$ _____ to cover the above fees is enclosed. b. <input type="checkbox"/> Please charge my Deposit Account No. _____ in the amount of \$ _____ to cover the above fees. A duplicate copy of this sheet is enclosed. c. <input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. <u>50-2131</u> . A duplicate copy of this sheet is enclosed. d. <input checked="" type="checkbox"/> Fees are to be charged to a credit card. WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.					
NOTE: Where an appropriate time limit under 37 CFR 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the International Application to pending status.					
SEND ALL CORRESPONDENCE TO: King & Jovanovic, PLC 170 College Avenue, Suite 230 Holland, Michigan 49423			 SIGNATURE: William L. King III NAME 46,830 REGISTRATION NUMBER		

Law Offices
KING & PARTNERS, PLC
170 College Avenue, Suite 230
Holland, Michigan 49423
Telephone (616) 355-0400
Facsimile (616) 355-9862

United States and International
Intellectual Property Law

Chicago Office:
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Chicago, Illinois 60601

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Attention: WILLIAM L KING III
Address: 170 COLLEGE AVENUE
City: HOLLAND
State: MI
Zip: 49423
Country: UNITED STATES

DATE	SEQ	POSTING REF TXT	ATTORNEY DOCKET NBR	FEE CODE	AMT	BAL
06/01	230	E-REPLENISHMENT		9203	-\$65.00	\$3,500.00
06/13	2	PCT/US05/18046	RSV-041025	PCT 1602	\$700.00	\$2,800.00
06/13	4	PCT/US05/18046	RSV-041025	PCT 1703	\$39.00	\$2,761.00
06/13	5	PCT/US05/18046	RSV-041025	PCT 8007	\$20.00	\$2,741.00
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		\$3,435.00	\$759.00	\$65.00	\$2,741.00	

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Attention: WILLIAM L KING III
Address: 170 COLLEGE AVENUE
City: HOLLAND
State: MI
Zip: 49423
Country: UNITED STATES

DATE	SEQ	POSTING REF TXT	ATTORNEY DOCKET NBR	FEE CODE	AMT	BAL
07/05	5	E-REPLENISHMENT		9203	-\$759.00	\$3,500.00
07/12	27	PCT/US05/14224	GEN-031208 PCT	8007	\$20.00	\$3,480.00
07/27	46	11048622	SCH-031090C3	1202	\$450.00	\$3,030.00
		START BALANCE	SUM OF CHARGES	SUM OF REPLENISH	END BALANCE	
		\$2,741.00	\$470.00	\$759.00	\$3,030.00	

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Requested Statement Month: August 2005
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Name: KING & PARTNERS, PLC.
Attention: WILLIAM L KING III
Address: 170 COLLEGE AVENUE
City: HOLLAND
State: MI
Zip: 49423
Country: UNITED STATES

DATE	SEQ	POSTING REF TXT	ATTORNEY DOCKET NBR	FEE CODE	AMT	BAL
08/02	1	10635620	OST-031113	2251	\$60.00	\$2,970.00
08/02	2	10635620	OST-031113	2202	\$175.00	\$2,795.00
08/09	200	E-REPLENISHMENT		9203	-\$705.00	\$3,500.00
08/23	14	10884480	GEN-001386C2	1814	\$130.00	\$3,370.00
		START BALANCE	SUM OF CHARGES	SUM OF REPLENISH	END BALANCE	
		\$3,030.00	\$365.00	\$705.00	\$3,370.00	

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Attention: WILLIAM L KING III
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Zip: 49423
Country: UNITED STATES

DATE	SEQ	POSTING REF TXT	ATTORNEY DOCKET NBR	FEE CODE	AMT	BAL
09/07	51	E-REPLENISHMENT		9203	-\$130.00	\$3,500.00
09/28	4	10268546	FFC-011244	1811	\$100.00	\$3,400.00
09/29	131	10200691	ZAN-031127 P1	1464	\$130.00	\$3,270.00
		START BALANCE	SUM OF CHARGES	SUM OF REPLENISH	END BALANCE	
		\$3,370.00	\$230.00	\$130.00	\$3,270.00	

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Name: KING & PARTNERS, PLC.
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State: MI
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Country: UNITED STATES

DATE	SEQ	POSTING REF TXT	ATTORNEY DOCKET NBR	FEE CODE	AMT	BAL
10/12	79	E-REPLENISHMENT		9203	-\$230.00	\$3,500.00
10/18	2	10518066	BWT-041148	1201	\$200.00	\$3,300.00
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		\$3,270.00	\$200.00	\$230.00	\$3,300.00	

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Address: 170 COLLEGE AVENUE
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DATE	SEQ	POSTING REF TXT	ATTORNEY DOCKET NBR	FEE CODE	AMT	BAL
11/01	166	E-REPLENISHMENT		9203	-\$200.00	\$3,500.00
11/28	72	PCT/US05/40768	GEN-041133PCT	1703	\$60.00	\$3,440.00
		START BALANCE	SUM OF CHARGES	SUM OF REPLENISH	END BALANCE	
		\$3,300.00	\$60.00	\$200.00	\$3,440.00	

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 Attention: WILLIAM L KING III
 Address: 170 COLLEGE AVENUE
 City: HOLLAND
 State: MI
 Zip: 49423
 Country: UNITED STATES

DATE	SEQ	POSTING REF TXT	ATTORNEY DOCKET NBR	FEE CODE	AMT	BAL
12/13	151	E-REPLENISHMENT		9203	-\$60.00	\$3,500.00
		START BALANCE	SUM OF CHARGES	SUM OF REPLENISH	END BALANCE	
		\$3,440.00	\$0.00	\$60.00	\$3,500.00	

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Attention: WILLIAM L KING III
Address: 170 COLLEGE AVENUE
City: HOLLAND
State: MI
Zip: 49423
Country: UNITED STATES

DATE	SEQ	POSTING REF TXT	ATTORNEY DOCKET NBR	FEE CODE	AMT	BAL
01/18	20	10985663	VIC-031131	2001	\$395.00	\$3,105.00
01/24	109	E-REPLENISHMENT		9203	-\$395.00	\$3,500.00

START BALANCE	SUM OF CHARGES	SUM OF REPLENISH	END BALANCE
\$3,500.00	\$395.00	\$395.00	\$3,500.00

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Deposit Account Statement

Requested Statement Month: February 2006
Deposit Account Number: 502131
Name: KING & PARTNERS, PLC.
Attention: WILLIAM L KING III
Address: 170 COLLEGE AVENUE
City: HOLLAND
State: MI
Zip: 49423
Country: UNITED STATES

DATE	SEQ	POSTING REF TXT	ATTORNEY DOCKET NBR	FEE CODE	AMT	BAL
02/02	5	10282543	OST-021151	2202	\$36.00	\$3,464.00

START BALANCE	SUM OF CHARGES	SUM OF REPLENISH	END BALANCE
\$3,500.00	\$36.00	\$0.00	\$3,464.00

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Deposit Account Statement

Requested Statement Month: March 2006
Deposit Account Number: 502131
Name: KING & PARTNERS, PLC.
Attention: WILLIAM L KING III
Address: 170 COLLEGE AVENUE
City: HOLLAND
State: MI
Zip: 49423
Country: UNITED STATES

DATE	SEQ	POSTING REF TXT	ATTORNEY DOCKET NBR	FEE CODE	AMT	BAL
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START	SUM OF	SUM OF	END
BALANCE	CHARGES	REPLENISH	BALANCE
\$3,464.00	\$.00	\$.00	\$3,464.00

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Deposit Account Statement

Requested Statement Month: April 2006
Deposit Account Number: 502131
Name: KING & PARTNERS, PLC.
Attention: WILLIAM L KING III
Address: 170 COLLEGE AVENUE
City: HOLLAND
State: MI
Zip: 49423
Country: UNITED STATES

DATE	SEQ	POSTING REF TXT	ATTORNEY DOCKET NBR	FEE CODE	AMT	BAL
		START	SUM OF	SUM OF	END	
		BALANCE	CHARGES	REPLENISH	BALANCE	
		\$3,464.00	\$.00	\$.00	\$3,464.00	

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Deposit Account Statement

Requested Statement Month: May 2006
Deposit Account Number: 502131
Name: KING & PARTNERS, PLC.
Attention: WILLIAM L KING III
Address: 170 COLLEGE AVENUE
City: HOLLAND
State: MI
Zip: 49423
Country: UNITED STATES

DATE	SEQ	POSTING REF TXT	ATTORNEY DOCKET NBR	FEE CODE	AMT	BAL
05/17	22	PCT/US06/16488	GEN-031171 P1	PCT 1703	\$144.00	\$3,320.00
		START BALANCE	SUM OF CHARGES	SUM OF REPLENISH	END BALANCE	
		\$3,464.00	\$144.00	\$0.00	\$3,320.00	

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Deposit Account Statement

Requested Statement Month: June 2006
Deposit Account Number: 502131
Name: KING & PARTNERS, PLC.
Attention: WILLIAM L KING III
Address: 170 COLLEGE AVENUE
City: HOLLAND
State: MI
Zip: 49423
Country: UNITED STATES

DATE	SEQ	POSTING REF TXT	ATTORNEY DOCKET NBR	FEE CODE	AMT	BAL
06/01	107	E-REPLENISHMENT		9203	-\$180.00	\$3,500.00

START BALANCE	SUM OF CHARGES	SUM OF REPLENISH	END BALANCE
\$3,320.00	\$0.00	\$180.00	\$3,500.00

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